

shipping lane. Sound levels that occur solely within the zone of audibility and not in other zones closer to the noise source would not be expected to result in adverse impacts to marine mammals.

Similarly, the zone of responsiveness, in which avoidance behaviors could possibly occur with some species, is estimated based on estimated sound pressure levels of 120 dB re 1  $\mu$ Pa-rms. At this range, Level B takes under the MMPA could possibly occur. This zone would include a radius of up to approximately 1.0 NM (1.1 mi or 1.8 km) from the FSRU for normal operational scenarios (cases 1-4 in Table 4.7-13) and an area of up to 10.2 km<sup>2</sup>. For less likely or uncommon operational scenarios (cases 5-7 in Table 4.7-13), the distance would 2.6 NM (3.0 mi or 4.8 km) and an area of up to 72.3 km<sup>2</sup>.

Although the zone of physical damage may differ substantially among marine mammal species, for this project, the estimate is based on a continuous level of 180 dB re 1  $\mu$ Pa-rms, in accordance with current NMFS criterion for Level A takes. This zone would include a radius of up to approximately 8.2 ft (2.5 m) from the FSRU for normal operational scenarios (cases 1-4 in Table 4.7-13) and an area of up to 19.6 m<sup>2</sup>. For less likely or uncommon operational scenarios (cases 5-7 in Table 4.7-13), the distance would be 19.0 ft (5.8 m) and an area up to 105.6 m<sup>2</sup>. At these ranges, Level A takes under MMPA could possibly occur.

Between the outer limit of the zone of responsiveness and the outer limit of the zone of physical damage under normal and likely operational scenarios, frequencies between 22 Hz and approximately 2, 828 Hz would dominate and frequencies higher than 2, 828 Hz would be heard above background levels. Species, whose hearing range would only be marginally within the noise produced between these zones (i.e., hearing ranges above 1 kHz) include Pacific white-sided dolphin, northern right whale dolphin, false killer whale, Blainville's beaked whale, harbor porpoise and sei whale. While noise produced between 120 and 180 dB re 1  $\mu$ Pa-rms may be audible to these species, it is unlikely that it would result in response behaviors. Species with hearing ranges in the low frequency ranges (i.e., below 500 Hz) would be most susceptible to noise impacts from the FSRU, including Risso's dolphin, bottlenose dolphin, Hubb's beaked whale, sperm whale, gray whale, minke whale, Bryde's whale, blue whale, fin whale, humpback whale, California sea lion and northern elephant seal.

As for sea turtles, no specific behavioral reaction or temporary threshold shift (TTS) data has been identified, and the potential for effects on their hearing is still unknown. However, turtles are less sensitive with respect to hearing than birds and mammals as a group (USN, 2001b; Wever, 1978). Typically, any protective measures used to minimize impacts to marine mammals are also advantageous to sea turtles.

The MARAD will require the applicant to comply with MM (agency mitigation) BioMar-5a: "Noise Reduction Design" (attached). This mitigation measure directs the applicant to work with marine architects and acoustical experts to design the FSRU and its equipment, to the maximum extent feasible, to reduce the output of cumulative noise from the facility.

The applicant will be required to comply with MM BioMar-5b: "Acoustic Monitoring Plan" (see attached) to obtain site-specific baseline data and empirical data prior to and during LNG operations.

In addition to the above, the applicant will be required to comply with MM NOI-1a: "Efficient Equipment Usage" (see attached) which requires construction equipment to be operated on an as-needed basis, ensure that equipment engine covers and mufflers are in good working order and prospective off-shore construction contractors address noise reduction measures to the extent of using engines with lower noise ratings, phase construction to lessen the number of equipment operating simultaneously, and to identify other practices to reduce equipment noise.

Although a number of mitigation measures have been identified, the potential for noise impacts to marine mammals and turtles remains. Therefore, the construction of the pipelines and operation of the FSRU under certain scenarios, may be likely to adversely affect some of these species.

#### **F. Decommissioning**

The Draft EIS/EIR and the Revised Draft EIR states: "The impacts of decommissioning would be evaluated in a separate Project-specific environmental document, pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Policy Act (CEQA), when the Project is no longer viable." Given the speculative nature of actions and available technology that far in the future, we feel that the best method to resolve NMFS concerns is to recommend a licensing condition for any license granted that will ban the use of explosives and will provide for NMFS review and concurrence in advance of any decommissioning process that is undertaken. This should resolve your concerns with respect to decommissioning impacts.

#### **G. Mitigation Plan**

Mitigation and monitoring plans are referenced in the Draft EIS/EIR. Detailed plans and monitoring protocols are not fully developed at this stage of the DWP licensing process, as a license may not be granted. As noted in your letter, and throughout the Draft EIS/EIR and Revised Draft EIR, NOAA/NMFS will be an active participant in the development of monitoring protocols and we fully expect NOAA/NMFS to be fully engaged in the development of more detailed mitigation plans and monitoring protocols should the project receive approval.

Based on the results of the Coast Guard's environmental analysis of species in the ROI, construction and operation of the Cabrillo Port Deepwater Port would have a minor impact on essential fish habitat.

In order to minimize noise impacts from construction and operation, the applicant will be required to;

- 1) Avoid off-shore construction during the grey whale migration season;

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- 2) Employ marine mammal monitors to avoid construction activities when marine mammal(s) are present;
- 3) The FSRU and the support vessels will be designed to minimize noise generation during operations, and
- 4) Maintain specific helicopter altitudes in the unlikely event that a helicopter is used.

However, Level A and Level B takes may occur during off-shore construction and operation of the FSRU under certain unlikely circumstances.

In summary, thank you for your comments. We have provided additional information as requested in your letter of July 14, 2006. We are confident we have addressed your concerns with our findings as presented in the Draft EIS/EIR as well as this letter and our letter of June 5, 2006 to your agency. The Final EIS/EIR has been revised to reflect this information. Following your review of the Final EIS/EIR, if any concerns still exist we encourage you to advise us. If a license is granted we can collaboratively draft license conditions that will prevent or minimize any potential harm to listed threatened or endangered species. We respectfully request your agency's concurrence with our determinations on the potential impacts on these species.

If you require additional information in order to complete the consultation for this project, please contact me or Mr. Ray Martin at (202) 372-1449.

Sincerely,



M. A. PRESCOTT  
Chief, Deepwater Ports Standards Division  
U.S. Coast Guard  
By direction

Enclosures:      Figure 4.3-2: LNG Carrier Approach Routes  
                     MM BioMar-5a: Noise Reduction Design  
                     MM BioMar-5b: Acoustic Monitoring Plan  
                     MM BioMar-5c: Helicopter Altitude  
                     AM BioMar-9a: Avoid Offshore Construction During Gray Whale Migration Season  
                     AM BioMar-9b: Marine Mammal Monitoring  
                     MM BioMar-10a: Deployment of Potentially Entangling Material  
                     MM NOI-1a: Efficient Equipment Usage  
                     Table 4.7-13 Total Broadband Noise Generated Under Different Operation Scenarios

Copy:              K. Lesnick, MARAD  
                     A. Zimpfer, EPA 9

**MM BioMar-5b. Acoustic Monitoring Plan.**

The Applicant shall prepare an acoustic monitoring plan to obtain site-specific baseline data and empirical data prior to and during LNG operations. The tasks involved in the mitigation monitoring plan are described below. These tasks will be performed by independent, third-party monitors qualified for such tasks and approved in advance by the appropriate regulatory agencies, such as USFWS, NOAA (NMFS), and CDFG.

- Obtain pre-construction, site-specific data on the presence, species composition, abundance, frequency, and seasonality of marine mammals specific to the Project site (twice-monthly aerial line transect surveys for one to two years).
- Obtain seasonal conductivity (density/salinity), temperature, and depth measurements at the Project site before construction begins. Concurrently, measure levels of natural ambient sound in a variety of sea states, provided that sea conditions are not so severe that they compromise the ability to obtain good data (sound pressure level recordings). Also, measure sounds of various vessels as they pass the Project site in the nearby shipping lane (sound pressure level recordings four times a year for one to two years).
- Take empirical measurements of operational sound at various depths, distances and directions from the Project site (sound pressure level recordings). Take measurements during cold and warm water influxes. Measurements will be taken of the LNG carrier and tugs berthing and leaving FSRU; the LNG carrier attendant vessels; all operational modes of FSRU, support vessels, and helicopters during normal operations; and pipeline noise.
- Document behaviors of marine mammals exposed to operational noise (passive tracking and observations four times a year for one to two years). Concurrently, measure sound levels from Project operations received by the marine mammals (sound pressure level recordings).
- Evaluate mitigation monitoring results against NOAA Fisheries (NMFS)-accepted sound thresholds as results become available. In consultation with regulators, make recommendations as to whether noise levels can be reduced and whether continued or future monitoring is necessary.

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**MM BioMar-5c. Helicopter Altitude.**

The Applicant shall ensure that helicopters maintain a flight altitude of at least 2,500 feet (762 m), except during takeoff and landing.

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**AM BioMar-9a. Avoid Offshore Construction During Gray Whale Migration Season.**

The Applicant would conduct offshore construction activities outside the gray whale migration season (June 1 through November 30).

**AM BioMar-9b. Marine Mammal Monitoring.** All construction vessels would carry two qualified marine monitors and all operational vessels would carry one qualified marine monitor to provide a 360-degree view and watch for and alert vessel crews of the presence of marine mammals and sea turtles during construction activities. Additionally, the following actions would be implemented, and the following information would be made available to all vessel operators associated with the Project and posted in the pilot house:

- The monitors would receive training from a qualified independent marine wildlife mitigation firm approved in advance by NOAA Fisheries and USFWS, in consultation with the CDFG. The training would enable monitors to identify marine mammal and sea turtle species and to understand their behaviors, seasonal migrations, and the importance of avoiding them.
- All monitors would be familiar with the mitigation measures described in the Marine Mammal Monitoring Protocol and in the Final EIS/EIR for the Project and would have a copy of these measures during monitoring. These measures spell out the specific responsibilities of the monitors and Project personnel.
- Monitors would have the authority to stop work until monitors determine there is no longer a threat and/or the animal(s) transits the area if a marine mammal or sea turtle approaches the 100-yard (91.4 m) safety zone or the monitors determine that the Project operations have the potential to threaten the health or safety of marine wildlife or “take” a protected species as defined by regulations implementing the ESA and MMPA.
- While on watch, monitors would have no other duty than to observe marine mammals and sea turtles. Monitors would be on duty 24 hours a day unless the vessel is in harbor or anchorage. Watches would be divided according to the ships’ schedules, but in no event would a monitor stand a total of more than 12 hours of watches during any 24-hour period. The Applicant may engage trained third-party observers, may utilize trained crew members, or may use a combination of both third party and crew observers. During observations, monitors would follow the guidelines in MMS Notice to Lessees NTL No. 2004-G01 for visual observers regarding scheduled time on and off duty while engaged as a monitor, not to exceed more than four consecutive hours on watch as an observer.
- Monitoring would be conducted during all construction activities and as each vessel travels to and from the construction site. Supply, support, and crew vessels traveling to and from the Project site during operation also would be monitored. The Applicant would meet the same requirements as other marine vessels during operations.
- Each monitor would maintain watch for marine mammals and sea turtles at all times while each vessel is under way. If any whales are observed, the monitor would request the vessel operator to employ the following procedures:

**(AM BioMar-9b. Marine Mammal Monitoring cont'd)\_**

- Do not approach whales or any threatened or endangered wildlife closer than 1,000 feet (305 m).
- Approach whales from the side or rear on a parallel course.
- Do not cross directly in front of the whales.
- Maintain the same speed as the whales.
- Do not attempt to herd or drive any whales.
- If a whale exhibits evasive or defensive behavior, stop the vessel until the whale has left the immediate area.
- Do not come between or separate a mother and its calf.

In addition, qualified independent monitors, approved in advance by NOAA Fisheries and the USFWS in consultation with the CDFG, would be aboard the pipelaying vessel while it is deployed at the Project site. The monitors would:

- Establish and maintain communications with the vessel operator at all times.
- Be positioned so that a 360-degree view is maintained.
- Be on watch during all pipelaying operations, day or night.
- Use night vision or low-light binoculars in reduced light.
- If a collision appears likely, reduce the speed of the vessel as quickly and as much as possible and engage propulsion machinery only when necessary to maintain position.
- If a collision is likely, take up observation position and require available crew aboard the ship to take up observation positions to help report sightings to the monitor so that appropriate actions can be taken to avoid collision.

In the unlikely event that a whale is injured, the operator would immediately notify:

- Stranding Coordinator, NOAA Fisheries, Long Beach (562-980-4017)
- Enforcement Dispatch Desk, CDFG, Long Beach (562-590-5133)
- Environmental Planning and Management, CSLC, Sacramento (916-574-1890)
- Santa Barbara Marine Mammal Center (805-687-3255)

A detailed written report would be prepared by the monitor and dispatched to NOAA Fisheries, USFWS, the CDFG, and the CSLC. A final report summarizing the monitoring activities for the Project would also be provided to the above-mentioned agencies within 60 days of the conclusion of offshore facilities construction. Monthly reports would be prepared by the monitor summarizing marine mammal sightings and any steps taken to avoid adverse impacts.

**MM BioMar-10a. Deployment of Potentially Entangling Material.**

The Applicant shall ensure that the vessel operator deploys any material that has the potential for entangling marine mammals or sea turtles only for as long as necessary to perform its task, and then immediately removes such material from the Project site. Possible slack shall be taken out of any material that could cause entanglement unless such slack is necessary to allow for currents, tides, and other factors. In the unlikely event that an entanglement appears likely, the marine mammal monitor shall request the operator to remove all material that could cause entanglement, if possible, and to take up as much slack as possible in material that cannot be immediately removed. Temporary mooring buoys shall be positioned with heavy steel cables or chains to minimize potential entanglements. Mooring lines shall be used only when vessels are moored and shall not be left on mooring buoys when not in use.

**MM NOI-1a. Efficient Equipment Usage.**

The Applicant shall:

- Operate construction equipment only on an as-needed basis during this period, and to maintain it to the manufacturer's specifications. This will serve to reduce the number of noise producing events.
- Ensure that equipment engine covers are in place and mufflers are in good working condition for the installation of the mooring system, FSRU, and offshore pipeline.
- Require that prospective contractors for the offshore pipeline installation address noise reduction measures in their respective bid proposals, such as (1) the extent to which they will use engines with lower noise ratings, (2) phased construction activities to reduce simultaneous operations of engines, and (3) all other practices they would follow to reduce equipment noise emissions.





**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802- 4213

**JAN 31 2007**

In response, refer to:  
151404SWR2004PR13870:MLD

Mark A. Prescott  
Chief, Deepwater Ports Standards Division  
U.S. Coast Guard  
2100 Second Street, S.W.  
Washington, D.C. 20593-0001

Dear Chief Prescott:

NOAA's National Marine Fisheries Service (NMFS) has reviewed your letter dated December 21, 2006, requesting NMFS' concurrence with the U.S. Coast Guard's (USCG) determination under Section 7 of the Endangered Species Act (ESA) (16 U.S.C. § 1536(a)(2)) on the effects of the construction and operation of the proposed Cabrillo Port Deepwater Port on listed species. The proposed Deepwater Port would be located approximately 14 miles off Ventura County, on the shoreward side of the Southern California Bight (SCB). The applicant, BHP Billiton, has proposed a floating, storage, and regasification unit for transforming liquefied natural gas (LNG) back to its gaseous state. USCG has requested that NMFS concur with its determination that "this project will not likely affect the continued existence of any threatened or endangered species or lead to the destruction of critical habitat" (Page 2 of USCG December 21, 2006 letter).

The December 21, 2006, letter disagrees with NMFS' recommendation in our letter dated July 14, 2006, that the Region of Influence (ROI) be expanded beyond the SCB to include waters from the project location to the U.S. Exclusive Economic Zone (EEZ). As stated in the December 21, 2006, letter, and in the Draft Environmental Impact Statement/Report (EIS/EIR) and the Revised Draft EIR, the possibility of impacts to marine mammals and sea turtles from ship strikes and possible avoidance behavior by these animals in response to increase ship traffic associated with the project does exist. NMFS supports USCG's recommendation that any license that is granted will include a condition that all LNG carriers transit in the specific east-west transit lanes within the EEZ. However, the action area of the project should include all areas to be affected directly or indirectly by the action, and not merely the immediate area involved in the action (50 CFR 402.02). The action area is considered to be all terrestrial and aquatic environments affected by the construction and operation of the LNG terminal and pipelines. The marine portion of the action area should therefore be considered to extend from the marine basin of the Cabrillo Port LNG terminal including all LNG traffic lanes within the EEZ of the Pacific Ocean.

In the December 21, 2006, letter USCG states that noise impacts associated with the construction of the proposed project may result in both Level A and Level B takes under the Marine Mammal Protection Act (MMPA). Given this determination, NMFS recommends that USCG and/or the applicant apply for a Letter of Authorization (LOA) under the MMPA for construction operations. USCG also states that noise impacts associated with the operations of



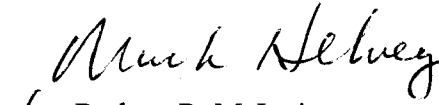
the proposed project may result in Level B takes under the MMPA. NMFS recommends that USCG and/or the applicant apply for either an Incidental Harassment Authorization (IHA) or LOA under the MMPA for operations of the proposed project. In addition, the December 21, 2006, letter states that "Noise from construction of pipelines under certain scenarios may be likely to adversely affect some marine mammal species." These takes associated with construction and/or operations, may include ESA-listed marine mammal species. Typically, any noise impacts to marine mammals are also likely to impact sea turtles. A take of an ESA-listed species is an adverse effect, therefore, we cannot concur, at this time, with USCG's determination on Page 2 of the December 21, 2006, letter that this project is not likely to adversely affect ESA-listed marine mammal or sea turtle species.

Mitigation and monitoring plans (Plans) have not yet been developed at this stage of the Deepwater Port licensing process because the license may not be granted. Although the Draft EIS/EIR and Revised EIR describe some of the impacts that may occur as a result of the project and state that Plans will be prepared, details on proposed measures to minimize or avoid harm to protected species were not provided to NMFS. NMFS cannot concur with USCG's findings without having the opportunity to review proposed mitigation and monitoring protocols. NMFS would like to accept USCG's offer to participate in the development of these mitigation and monitoring protocols and looks forward to working together on the Plans. Please note that these Plans will need to be available in order to proceed with either the LOA or IHA application process under the MMPA.

The December 21, 2006, letter states that any decommissioning will be included in a separate project-specific document, pursuant to the National Environmental Policy Act. NMFS supports USCG's recommendation to include a licensing condition for any license granted that will ban the use of explosives during decommissioning. As stated in the December 21, 2006, letter in advance of any decommissioning that is undertaken, USCG or applicant, shall provide NMFS with the opportunity to review the proposed decommissioning process to identify potential impacts to protected species.

These comments are provided in accordance with the ESA and MMPA. We appreciate your efforts to comply with Federal regulations and to conserve protected species. As described in this letter, additional information is required before NMFS can proceed with the consultation for this project. Please contact Monica DeAngelis at 562-980-3232 or [Monica.DeAngelis@noaa.gov](mailto:Monica.DeAngelis@noaa.gov), if you have any questions concerning this letter or if you require additional information.

Sincerely,

  
for Rodney R. McInnis  
Regional Administrator